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SUBJECT—

TITLE

Forest Insect Detection Survey

Clearwater National Forest

1949

By

Forest Insect Laboratory
Coeur d' Alene, Idaho

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REPORT
FOREST INSECT DETECTION SURVEY
CLEARWATER NATIONAL FOREST
1949

by
Forest Insect Laboratory
Coeur d'Alene, Idaho

A small crew of 3 men, under the leadership of Charles J. Johnson, spent the period from August 23 to the 31st in covering several questionable areas of white pine on the Clearwater National Forest. A record of the data obtained follows:

Orogrande Unit

Total acres	13,400
Acres of sample strip	327
Percent covered	2.44
Trees and windfalls on strip attacked by mountain pine beetle in 1949	48
Number of 1949 attacks per acre	.147
Total 1949 attacks	1,970

This area of white pine lies between Silver Creek on the west, a high ridge on the north, Knute Creek on the east, and the Orogrande River on the south. It includes, however, the Tamrack Creek drainage which lies to the south of Orogrande River. Throughout this area there is a scattered rather well distributed infestation of the mountain pine beetle in white pine trees and windfalls, which averages .147 of a tree per acre. Although this is not a heavy infestation, there are some areas of heavy windfall within this unit, where the situation is more serious. The data from these three areas was not included in the information presented for the general area, but is shown in the following tabulation.

Windfall Areas - Orogrande Unit

Total acres	600
Acres of sample strip	30
Percent covered	5
Windfalls attacked in 1949 by mountain pine beetle on strip	78
Number of 1949 attacks per acre	2.6
Total of 1949 attacks	1,560

These areas of concentrated windfall were delineated from the plotted sample strips, which indicated their location. It is quite possible that their boundaries are not entirely accurate, and that there may be other similar conditions. As our survey was a 5% coverage with strip every 20 chains, there could be other areas between the strip lines that were not disclosed.

Windthrown or snow tipped white pine are an attractive host to the mountain pine beetle. As the resistance of these trees to beetle attack is practically eliminated, heavy beetle populations result from such attacks. Beetle infested windthrown trees are a serious threat to adjacent timber stands.

Tepee Creek Unit

Total acres			1,090
Acres of sample strip			26
Percent covered			2.4
Trees and windfalls attacked in 1949 by mountain pine beetle on strip			12
Number of 1949 attacks per acre			.46
Total 1949 attacks	Standing trees	43	
	Windfalls	453	
		496	496

This area lies in Sec. 18, 19, and 30, T. 39N., R. 7E. The portion of the unit that lies within the C.T.P.A. area has been logged. The mountain pine beetle attacks varied from light to heavy, with the greatest number being fairly light. However, with windfalls this is of little importance, as large broods come from such attacks. Infested material is distributed throughout the area as scattered trees with the exception of one small group of 5 blowdowns.

Dead Horse

Total acres	1,700
Acres of sample strip	27
Percent covered	1.6
Windfalls attacked 1949, mountain pine beetle on strip	2
Number of 1949 attacks per acre	.07
Total 1949 attacks	119

This unit is in Sections 7, 8, 17, 18, 19, and 20, T. 39N., R. 7E., and is broken up by a series of moderate to steep ridges. All attacks were

in scattered windfalls, with no centers of blowdown recorded. In addition to the sample strip data, a good view of this area was obtained from Dead Horse Lookout, and no red tops recorded.

Sheep Mountain

Total acres			3,400
Acres of sample strip			70
Percent coverage			2.06
Trees and windfalls attacked 1949 by mountain pine beetle on strip			85
Number of 1949 attacks per acre			1.21
Total 1949 attacks	Trees	100	
	Windfalls	1,300	
		1,400	1,400

This unit is located in Sections 4, 5, 6, 7, and 8 of T. 39N., R. 7E., and Sections 29, 30, 31, 32, and 33, of T. 40N., R. 7E. Although the acreage of this unit is given as 3,400, the infestation is confined to the north portion of some 1,150 acres. Most of the southern portion is covered by brush and young trees. The heaviest concentration of infestation recorded is in the upper portion of Swanson Creek. In this area there is a severe blowdown that seems to be confined to the west slopes by the rather steep drainage. The attacks are light to moderate with an average of 1 - 4 per square foot of bark surface. Windfalls occur in groups of 5 - 6 trees.

In addition to the sample strips, scattered red tops were observed throughout the area with one group of 25 recorded. This situation can be considered as being rather serious.

Cedars Unit

Total acres			6,500
Acres of sample strip			65
Percent covered			1
Trees and windfalls attacked 1949 by mountain pine beetle on strip			11
Number of 1949 attacks per acre			.17
Total 1949 attacks	Trees	200	
	Windfalls	900	
		1,100	1,100

The location of this unit is well known. The major portion of the area is in Deception Gulch, with the remainder of the unit being in the upper portion of Osier Creek. The infestation of .17 of a tree per acre occurs in scattered windfalls, though a few attacked trees were recorded.

SUMMARY TABULATION

Unit	Acres	Infested Material Per Acre	Total Infested Trees
Orogrande	13,400	.147	1,970
Windfall Areas	600	2,600	1,560
Tepee Creek	1,090	.460	496
Dead Horse	1,700	.07	119
Sheep Mountain	3,400*	1.21	1,400
Cedars	6,500	.17	1,100
	26,690		6,645

*Infestation does not include all of this acreage.

The situation within these few areas on the Clearwater presents a rather alarming problem. It is apparent that some time during the past year there was a severe blowdown throughout the white pine stands of the region. This condition has been recorded on other forests, and the extent or severity of the damage is not known.

From our survey data it is evident that the attack of these wind, or possibly snow thrown trees, by the mountain pine beetle has been rather general. This has served to move the beetles from standing trees of varying degrees of beetle resistance, to a preferred material with all resistance to attack removed. From these attacks we can expect a heavy emergence of beetles in 1950.

This problem has two phases. The economic loss of the windthrown timber, for which bark beetles are not directly responsible, and the possibility of its salvage. Then there is the more than potential threat that this infested material bears to the building of an epidemic beetle population in the next year or two. Obviously the utilization of these trees before July 1950 would largely answer both problems. In the Orogrande area, and perhaps some of the others, such action would seem to be quite feasible. This would, of course, be the most economical procedure.

To treat these infested trees would be an expensive and physically difficult task. Known hot spots, or centers of blow down, could be located and the trees treated at a cost not much greater than the treatment of standing trees. However, to cover the entire project would be a large and expensive undertaking.

It is recommended that the situation on the Clearwater receive early attention, and that all phases of the problem be thoroughly studied. I have presented the entomological side of this situation which is a condition with which we are all familiar. These potentials must be balanced with the other phases of the problem.

cc: Craighead (3)
Regional Forester
Clearwater N. F.

XXXXXXXXXXXXX
Forest Insect Laboratory
Coeur d' Alene, Idaho

November 7, 1949

To: F. C. Craighead, In Charge, Forest Insect Investigations

From: James C. Evenden, P. O. Box 630, Coeur d' Alene, Idaho

Subject: Forest Insect Detection Survey in Clearwater

Reference is made to the Forest Insect Detection Survey report of the Clearwater National Forest which was submitted from this office during the first part of September. This report listed several areas where the Mountain Pine Beetle infestation was quite severe. In most of this area the infestation was largely in windfalls. The summary tabulation of these areas as shown in this report was as follows:

Unit	Acres	Infested material per acre Trees & Windfalls	Total Infested Units
Orogrande	13,400	.147	1970
Orogrande (concentrated Area)	600	2.600	1560
Tepee Creek	1,090	.460	496
Dead Horse	1,700	.07	119
Sheep Mountain	3,400	1.21	1400
Cedars	6,500	.17	1100

We have always considered white pine windfalls as being an important factor contributing to the build up of epidemics of the Mountain Pine Beetle. Past studies (Bedard) of mountain pine beetle infestations in white pine show that the number of beetles attacking a white pine windfall is but half of the number that attack a standing white pine tree. However, there is no significant difference in the number of beetles that emerge from these two type of host trees. As a result the occurrance of a large number of windfalls adds to the increase potential of an infestation. In instances where there are sufficient windfalls to absorb the beetle population of an area the increase potential of an infestation could be doubled.

Although in the Clearwater report there were no recommendations for control, it was recommended that the situation be thoroughly studied to consider the possibility of windfall salvage. This decision was not made until the afternoon of November 3.

To meet the entomological requirements of salvage, it would be necessary to remove white pine windfalls from the woods prior to June 15, 1950. In the Clearwater area, snow and road conditions would make such salvage quite difficult. To overcome this factor of time, it was recommended that the infested trees and windfall accessable to roads be given to operators on conditions that they peel the infested portion of the bole prior to June 15, 1950. This action would effect a marked saving of control funds, as well as reduce the physical difficulties of the project. The Clearwater situation was discussed with Mr. Lindh and his staff at a meeting held in Missoula on November 3rd. Although it was decided that this or some similiar procedure of salvage should be adopted, it was realized that it might be difficult to arrange. With this realization it was decided to request control funds for the treatment of the infested material in the Orogrande and Sheep Mountains Units. The cost of such treatment would be from 50 - 60 thousand dollars which would be reduced in proportion to the amount of material salvaged. I am not sure as to the ownership involved in connection with the Orogrande unit, however, a large portion of it is privately owned.

The occurrence of windfalls in many white pine areas of northern Idaho can quite properly be viewed with alarm. We have records of epidemics developing from this material and feel that unless the beetles within the Orogrande and Sheep Mountain areas are destroyed one can expect a material increase in the severity of the infestation in 1950.

INSECT SURVEY
MOUNTAIN PINE BEETLE
WHITE PINE
OROGRANDE UNIT
CLEARWATER NATIONAL FOREST
1949

Area Surveyed

Above Normal Infestation

R 6 E R 7 E

T 38 N
T 37 N

Cache Creek
Shake Creek
Gande Creek
Cottonwood Creek
Orogrande Creek
Creek
Creek
Tama Creek
Creek

14 13 18 17 16
23 24 19 20 21 22 23
26 25 30 29 28 27 26
35 36 31 32 33 34 35
2 1 6 5 4 3 2

R 6 E R 7 E